

# AMERICAN EDUCATIONAL MONTHLY.

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## *DOWN AMONG THE LOWLY.*

**A**BOUT the year 1845 a young man just from Yale College started on a pedestrian tour through Germany and other European countries. Reaching Hungary, he was immediately arrested by the Austrian authorities, and thrown into prison, as a suspected accomplice of the patriot Kossuth. He went through the farce of a trial, and was awaiting sentence of death, when by good fortune he was enabled to communicate with Mr. McCurdy, the American representative at the Court of Vienna. An imprisoned priest liberated at that time carried in his boots for him a communication to the representative, which secured the young man's liberation. It was while confined here in filthy quarters that he became interested in the work of ameliorating the condition of the poor and unfortunate. Having completed his European tour, he came home to New York, and, engaging in editorial and literary pursuits, devoted much of his time to work among the street Arabs. In conjunction with Messrs. B. J. Howland, W. C. Russell, since Professor in Cornell University, A. D. F. Randolph, Mrs. Dr. George B. Cheever, and other philanthropic individuals, he established in various parts of the city what were known as Boys' Meetings. In 1853 these persons, together with Judge

John L. Mason, Wm. C. Gilman, W. T. Hewitt, and W. L. King, organized the Children's Aid Society, which three years later was incorporated under the general Act of the State of New York in relation to charitable associations. The young man who had been so active in perfecting the enterprise, Charles L. Brace by name, was made the executive officer of the association. J. Earle Williams, a bank president, and an active philanthropist, took charge of the finances, which he has continued to do ever since, without pay or remuneration of any character or description. A small office was established in Amity street, with a boy attendant; and a circular was issued to the public, beginning as follows: "This society has taken its origin in the deeply-settled feelings of our citizens, that something must be done to meet the increasing crime and poverty among the destitute children of New York. Its objects are to help this class, by opening Sunday meetings and Industrial schools, and gradually, as means shall be furnished, by forming lodging-houses and reading-rooms for children, and by employing paid agents, whose sole business shall be to care for them." The first donation of fifty dollars came from Mrs. William B. Astor.

Mr. Mason was elected first president; Wm. A. Booth soon succeeded him, and has continued to be president ever since. During the first year, there were added to the Board of Management: Dr. J. L. Phelps, Cyrus W. Field, C. W. Elliott, George Bird, Howard Potter, and A. S. Hewitt.

Such, in brief, was the origin of one of the most powerful philanthropic agencies in New York, which has received and disbursed, solely for the benefit of the poorer classes, \$1,648,737. The work of this association is divided into three distinct departments:

1. *The Emigration Department.*—One Western resident agent, Charles F. Fry, and several traveling agents, are employed in removing destitute children from miserable hovels here to happy Western homes. 36,363 have, so far, been removed, and thousands of letters are every year received from these little waifs, scattered all over the Western and North-Western States, and the Society keeps track of their whereabouts and progress in life as much as it is possible to do so; Latterly the Society has made a practice of transporting entire

families to the West, when found in a destitute condition. No persons are thus removed who are able to help themselves. As a general thing, no difficulty whatever is experienced in finding homes and employment at the West for as many children as the funds of the society will enable it to dispatch from the city. The demand for labor is so great that people are always found not only willing, but glad to receive the little strangers. There are now thousands of substantial citizens in the West and North-West, constituting the bone and sinew of the country, who first saw the light of day in miserable dens in the great metropolis of the country, and were transported from wretchedness to happiness through the agency of the Children's Aid Society.

The picture, introducing this sketch, conveys, at a glance, to the eye, and thence to the mind, the wonderful change which the Emigration Department of the Society has wrought in the condition of tens of thousands of New York Arabs. Four of these little wretches, objects of the keenest pity, are grouped about the corner of a public building, helpless, homeless, and forlorn. They will be fortunate if they do not all of them go to bed supperless upon the cold pavement to-night! Directly opposite is seen one of the Society's agents bearing away to snug quarters three of these unfortunate waifs of humanity, whom he has picked up straggling about the streets looking in vain for work or bread. A little later, and supplied with outfits of clothing, they start off for the West, in company with others, there to find, what they have never known in New York, kind friends and plenty to eat. The farmer and his wife cordially greet the youngsters consigned to them; and ere long the ragged vagabond of New York is transformed into a happy farmer's boy.

2. *The Lodging-House Department* is under the management of individuals living with their families in them, and receiving regular salaries. There are five lodging-houses under the control of the Society, which, with their Sunday meetings, night-schools, and gymnasias, reach, during the year, some twelve thousand homeless children.

The Newsboys' Lodging-House, corner of Duane and New Chambers streets, is 109 feet long, 90 feet wide, seven stories high, and sheltered 8,913 different boys during 1874. The

latter are charged six cents for a meal, and six cents for a lodging, and contributed, during the year, \$6,167.53 toward the expenses of the institution. The dining-rooms are on the second floor, school-rooms on the third, dormitories on the fourth and fifth, and gymnasium on the sixth. The seventh story is likewise to be fitted up as a dormitory. There is a Savings Bank in the building, which was patronized during 1874 by 1,272 boys, who saved \$3,330.86. The "Bank" consists of a large walnut table, having a drawer divided into a number of compartments. The top of the table is pierced with an equal number of "penny holes," each opening into one compartment of the drawer. These holes are numbered, and each boy has his own number, of which a register is kept. Five per cent. a month is allowed on all savings. C. O'Connor is Superintendent of the Newsboys' Lodging-House. It is not restricted to newsboys; boot-blacks, match-sellers, apple-venders, peddlers, baggage-carriers, and in fact all who are needy and out of employment find temporary shelter here. The net expenses of the institution last year were \$15,108.68.

The Rivington Street Lodging-House, near East River, is three stories high, and comfortably feeds and lodges one hundred and twenty-five boys. The Eleventh Ward Lodging-House, in East Eleventh street, has an average of fifty-five nightly lodgers. The Eighteenth Street Lodging-House admitted eight hundred different boys last year, and furnished 22,173 lodgings and 29,025 meals. The expenses were \$4,366.30; and the receipts from the boys, \$3,446.29.

The Girls' Lodging House in St. Mark's Place, furnished 12,750 lodgings during 1874, to 1507 different girls, found situations for 683, and provided 29,262 meals; there is a sewing-machine school and a dressmaking class connected with the Institution. The former turned out 735 operatives last year. Every young girl who is poor, homeless and sober, is admitted. The expenses during 1874, were \$4,704.28; receipts \$1,805.20.

The Children's Country Retreat is a novel idea. It consists of a seaside Pavilion, or house, on Staten Island, to which poor children are sent from the city for a few days' time during the summer months to recuperate. During fifteen weeks last season, 1,260 different children went down the bay for this delightful recreation, which was furnished them at an average cost of

forty-three cents per head each day. The New York tenement houses are full of little invalids to whom a breath of pure country air brings health and happiness.

3. *The School Department.*—In 1867, Mr. Brace, who has continued Superintendent of all the various branches of the Society until the present time, was seized with typhoid fever, and proceeded to California to recover his health. J. W. Skinner, Esq., a graduate of Yale College, practicing law in St. Louis, came on temporarily to aid in the performance of Mr. Brace's duties. He had been very active in connection with charitable enterprises in St. Louis. He found the field was so broad here, and the demand for laborers so great, that he decided to remain permanently, taking charge of the School Department, which now embraces twenty day schools and thirteen night schools. They together employ one hundred teachers, and have an average attendance of three thousand children. Part of the instruction is of a volunteer character, ladies of culture and refinement visiting the schools once or twice a week to teach the children needle-work, etc. In most of the schools a warm meal is given to the children at noon, and supplies are given to many of the children to carry home to needy parents. Clothing and shoes are likewise furnished to such children as require them, in order to be able to attend school. The aim is to afford school privileges to such as are unable to attend the Public Schools, because of vagrancy or other causes. The teachers instruct not only those who, if left to themselves, would become vagabonds, but those engaged during the day in working for their parents. There are 10,288 children at present enrolled in all the schools, being about equally divided between the two sexes. The first of these Industrial Schools were opened for girls. In all the schools the common English branches are taught. In the day schools a portion of the time is given to teaching sewing, knitting, etc. The attendance and efficiency of the schools have steadily increased under the faithful superintendence of Mr. Skinner, whose philanthropic labors are deserving of all praise. A new building for Italian schools is just being completed in Leonard Street, at an expense of about fifty thousand dollars. It is to be used exclusively for the education of Italians.

Jared Macy, Esq., for a long time the local manager of the Society, is entitled to credit for his zealous labors in the work of reforming and saving our city outcasts. President Wm. A. Booth, Howard Potter, Theodore Roosevelt, and other gentlemen of the Board of Trustees, have year after year devoted some time every week to the physical, moral, and religious care of the numerous children which the Society aims to assist and rescue. All three of these gentlemen give a religious talk to the little waifs regularly every Sunday evening. The funds to support this philanthropic society, have come from legislative and municipal appropriations, and from private benevolence, in addition to the amounts paid in by the children themselves. Inasmuch, however, as the new amendments to the State Constitution forbid further appropriations for this and all similar institutions, those who are carrying on the good work, will have to rely more than ever upon private donations. They should not want for the needed funds.

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#### *AN OYSTER IN SCHOOL.*

NEAR the hinge of an oyster is a cavity which leads to its stomach. It may be called, with a little license, its mouth; not that it has teeth, or that in any way it masticates food, or that it indicates the place of the head, for the oyster belongs to a division of the mollusks known as the *acephalates*, or headless ones. But it is functionally a mouth, and is like mouths in two important particulars. It is the entrance of the food to the alimentary canal; and it has certain lip-like organs with which to control the entering food. If, then, the oyster's mouth is thus situated near the hinge, that part of the creature should be known as its anterior, or forward end. The opening end, that which the oystermen call the "nib," is therefore really the posterior extremity. A maternal ancestor told us an incident of the days of her girlhood, when "attending day-school in the 'Shongum' (Shawangunk) Mountains, in York State." The opening task of the day was the catechism. The good old pedagogue styled it "the morning milk of theology for the lambs." There was one lamb whose merry mischief

was sometimes so effervescent as to seriously muddle "the morning milk." With wide-orbed spectacles on nose, the oft-used ferule in one hand, and the little dog-eared book in the other, the old catechist began. "What is the chief end of man?" "Head and shoulders," answered the aforesaid lamb. From a physiological stand-point, the young wag was right. With such an appreciation of the situation, even a child may see the fitness in calling that part of the oyster which contains the mouth, the anterior, or forward end.

Every one knows that in opening an oyster the knife has to be passed through a stout organ, wrongly called by many the eye; for the oyster is eyeless. Some call it the heart. This, also, is incorrect. It is the great adductor muscle, with which the animal draws together its valves. But the oyster has a true heart. It is situated near to and forward of the adductor muscle, that is, between it and the mouth. If a finger of a glove were cut off and inflated with air, being closed up at the excised end, and then a thread were tied round so as to constrict it at the middle, we should have something resembling in shape pretty nearly the oyster's heart. This small organ is divided by the constriction into two lesser organs, an auricle, and a ventricle; a receiving and a distributing reservoir of the pale, opalescent blood—its true life-current, which animates every part of this complex little being.

If an oyster be opened with sufficient tact, and care, the heart can be seen at work, beating much as our hearts beat—a true rhythmical pulsation. Indeed, with watch in hand, the beats can be counted, as when a physician makes a diagnosis of one's pulse. As death nears, so slow the throbs of the oyster's heart.

"All this is well enough for the naturalist. Is such a sight attainable by me? Could I open an oyster and see all this with my own eyes?" So queries an earnest teacher. To all this we answer—Yes. Generally good eyes are sufficient. At the most, you would only need a pocket-lens, such as a few shillings would buy, and which, indeed, no teacher should be without. When working lately at a County Teachers' Institute, in South New Jersey, a whole-souled teacher, whose eyes beamed with intelligence and zeal, accosted us in this wise: "Sir, I was so interested in your description of the anatomy of the

oyster, and especially the detail of the place, form, and functions of its heart, that I got some live oysters, and determined to see for myself. I opened several before I got the hang of it. At last I succeeded. There it was, a real heart! With my pocket-magnifier it was almost painful to see that little thing beating away, as if for dear life."

This was a great discovery for that teacher. But this was not the end of it. He gave a little lecture to his school on the great mystery of life, even in an oyster. The pupils listened with deep interest. And that interest waxed into a sensation, when the teacher took an oyster and opened it before them, and showed them the oyster's heart. Then he made each one take the magnifier into his own hand, and look. There, in an impressive way, each saw for himself the beating of the oyster's heart.

Having ourselves been moved on several occasions to tears in presence of a newly-seen fact in nature, we asked that teacher how he felt. He acknowledged that the impression made on his mind was profound. "It made me almost sad for several days."

Yes, deep-thinking is this. It is thought upon discovery. It is as viewing a new country from a mountain-top. Nay, more—it is the pure light of a paragraph from a page of the great book of God's works, illumining the soul with the august conception of a glorious fact, witnessed, handled, felt, comprehended, absorbed, and so transmuted, and made for evermore a part of one's own intellectual selfhood.

And what about those dear children? More than "it is lawful to utter." That teacher had done for them a grandly good deed by turning their eyes upon the light which had so profoundly affected him. What activities had been set agog in the thinkings of those children! It was alchemy of the sublimest kind. It turned a supposed little clot of insensate jelly into an animate organized being; for with their own childish eyes they beheld its very heart—yes, and even saw it beating. The oyster will never again be to them a heartless thing. How humanizing, expanding, elevating was that vision! To them, this noble teacher was a seer, for he had taught their young ideas to shoot far and deep into the hidden matters of the life-bearing things of God.

SAMUEL LOCKWOOD.

**PRESIDENT McCOSH'S ERRORS AGAIN.**

PRESIDENT McCOSH can never be charged with fighting cautiously or delivering feeble blows. He stands recklessly in open field, and strikes often and strikes hard. His antagonist knows where to find him and what to expect. The Princeton President is not, however, the first Americanized European, to discover from actual experience and observation, that American ideas and institutions cannot be assailed with impunity. Naturally peaceable, we are yet disposed to resent any outside attacks, and hasten to club any foreigner who, having been welcomed to our midst, proceeds to raise his voice against us. When, therefore, the distinguished President aforesaid made such a deliberate onslaught upon our agricultural colleges at Elmira, he encountered an opposition and provoked a return attack which we fancy were as unexpected as they were vigorous and effective. In our account of the proceedings of the National Educational Association in 1873, we sharply criticised the reckless assertions made by President McCosh regarding these colleges. To some of his more immediate friends and admirers, the language may have appeared rather severe at the time. However this may have been, the sentiments we uttered have since been expressed elsewhere in even stronger language. For example, Dr. J. M. Gregory, Regent, in his dedicatory address at the Illinois Industrial University, employed the following vigorous English :

“ I cannot forbear to notice the extraordinary assertion made by McCosh, of Princeton College, that ‘ in all Germany there are only six agricultural colleges, and I can testify from personal visitation that some of them are very feeble institutions.’ In 1851, Prof. Hitchcock enumerated 352 agricultural schools in Europe, of which 22 were of the superior sort which we call colleges, though never thus called in Europe. Nine of these colleges and large numbers of the intermediate schools were in the several German States. I know that they have not diminished in numbers or in rank and influence since Prof. Hitchcock’s time. When was it, then, that Dr. McCosh could find only six, and these in a feeble condition? What shall we think of such a statement, made by such a man, and

made to justify himself for having interfered to prevent any further appropriations by Congress for agricultural education? The assertion is as false as the purpose for which it was made is illiberal and mean. Can it be that the President of Princeton fears the rivalry of these new and growing institutions?

"Over against this bold and baseless assertion of this learned Scotchman, I venture to place my own assertion, also the result of personal observation, that the agricultural schools of Europe of all grades, are yearly multiplying. It may be true that separate agricultural schools are not increasing, but agricultural colleges as departments of Polytechnic and other Universities, are steadily increasing in numbers and influence though fluctuating and varying in prosperity as all other institutions fluctuate; certainly not more. Equally extraordinary and baseless is that other assertion of this most extraordinary Doctor, that he 'could show that in no country in the world has agriculture been much benefited by mere agricultural schools.' To this assertion I oppose the assertion of Baron Liebig, made to myself, that 'the success of agricultural schools in Germany has been immense; ' that in Hesse, in particular, 'the value of land had been enhanced 300 per cent. by the improved cultivation taught by the agricultural schools.' In France, thousands of acres of land worn out by the exhausting tillage of 1,000 years, and sometimes abandoned as worthless, have been recovered by the applications and cultures taught by the agricultural colleges of France. I do not know how far Dr. McCosh's influence prevailed with Congress to prevent the appropriation of some further portion of public lands to support Industrial Schools; but if it was by such assertions as these that his influence was exerted, his course deserves the severest reprobation, and his success is as deplorable as his spirit was illiberal and unpatriotic. I can neither suppress, nor calmly endure the conviction that this immense public domain yet remaining unsold, is to become, piece by piece, the prey of speculators and speculating schemes; and that through mistaken or mischievous views, our national Congress will fritter away the opportunity to make nobly effective and fruitful its legislation of '62, missing the noblest chance ever offered to any government to provide for the higher and most careful education of the people.

"Let us tell Dr. McCosh and all who share his opinion, that the figures show,

"1st. That no grant of land for education ever made in this country, has been so productive as this for Industrial Colleges.

"2d. That no institutions of higher education in this country have ever grown more rapidly in numbers of students and in public esteem.

"3d. That in spite of all the disadvantages of an adverse influence from some of the old institutions and their Presidents, and from the lack of any well-established public demand for this kind of education, the number of students of agriculture and the mechanic arts compare favorably with those in the schools of theology and law."

President McCosh may have some sound and sensible ideas, as what educated Scotchman has not? When, however, he would ride recklessly and rough-shod over our American views and theories regarding education, he must expect to be brought up with a round turn.

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THE following table shows the number of universities and colleges in the United States:

	1870	1871	1872	1873
Number of Institutions,.....	266	290	298	323
" " Instructors,.....	2,823	2,962	3,040	3,106
" " Students,.....	49,163	49,827	45,617	52,053

Ohio has the largest number of the institutions; New York stands next. Delaware, New Hampshire, and Rhode Island have the fewest. From the statistics it appears that our universities and colleges are yearly increasing in number, although two-thirds of those already established are not well attended. The mania for founding new "colleges" or "universities" divides and dissipates the educational forces of the country. The means thus wasted would, if devoted to institutions already established, be productive of an immense amount of good. We have enough colleges now; our aim should be not to found new ones, but to strengthen those already existing.

\* HOW TO TEACH.—*Sixth Grade.*

## ↓ OBJECT LESSONS.

THE various topics embraced in Object Lessons furnish far more effective means for thoroughly developing the minds of children than any exercises that pertain exclusively to reading, spelling, arithmetic, etc. Children whose powers of mind have been developed by proper training, so that they observe, compare, classify, and describe intelligently whatever comes within the range of their observation, will learn every subject more easily than they could have done without such training. For these reasons suitable attention should be given in each grade, to all the topics embraced under the head of Object Lessons. And teachers should keep prominently in view the importance of these lessons as a means for proper mental discipline, and not regard the knowledge gained by the exercises as comprising their chief value.

Due attention to these considerations will lead teachers to regard, as of much importance, the *manner of giving* the lesson.

↓ FORM.—The character of the instruction in this subject, especially so far as it pertains to learning to recognize and describe the various *forms* and *solids*, need not differ materially in the Seventh and Sixth Grades. However, when the several shapes required have been learned by means of the regular *forms* and *solids* provided for this purpose, the time given to this topic should be chiefly devoted to comparing and describing other objects by their shape, stating wherein those compared resemble each other, and wherein they differ.

↓ HUMAN BODY.—The lessons in this grade should be conducted so as to review the facts learned in previous grades, and also so as to extend the pupil's knowledge of the laws of health, especially so far as these pertain to the condition of the skin, habits of cleanliness, and the manner of eating.

ANIMALS.—The manner of conducting the lessons on this topic for the Sixth Grade classes may be nearly the same as

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\* From "How to Teach. A Manual of Methods."

that for the Seventh Grade; but the pupils in this grade should be led to consider a greater number of animals than those in the previous one, and to observe more carefully the peculiarities of structure, etc., with a view to extending their knowledge of classification.

To aid the pupils in making groups of animals, by simple classification, let the teacher write on the blackboard the following and similar names for groups:

<i>Swimming Birds,</i>	<i>Cud-chewing Quadrupeds,</i>
<i>Wading Birds,</i>	<i>Flesh-eating Quadrupeds,</i>
<i>Climbing Birds,</i>	<i>Gnawing Quadrupeds,</i>
<i>Scratching Birds,</i>	<i>Insects,</i>
<i>Flesh-eating Birds,</i>	<i>Reptiles,</i>
<i>Perching Birds,</i>	<i>Fish.</i>

Then request the pupils to give the names of animals to be written under each heading.

These lessons relative to animals should lead the children to make comparisons as to form, structure, habits, size, etc., and to learn in what countries and localities the various birds and quadrupeds may be found.

PRANG'S *Natural History Series* will be found adapted to giving this instruction.

PLANTS.—The lessons on this subject in the Sixth Grade may lead the pupils to consider the parts and uses of leaves, their margins, parts and uses of flowers, as petals, stamens, pistil, etc.; the comparison of pinks, lilies, fruit-blossoms, etc., with a view to noticing resemblances in those of the same family, and differences in others; also kinds of fruits which the pupils have seen—the names to be written on the blackboard, and copied by the pupils on their slates, as a spelling exercise. The names of fruits and grasses used for food, etc., may be written in groups. Like the lessons on animals, these exercises should be so conducted as to lead the pupils to form habits of carefully studying nature, as a means of pleasure and as a source of knowledge; therefore, the time selected for giving the lessons on plants, etc., should be during the seasons when the pupils can personally examine these objects.

The teacher would do well to consult two excellent works by Prof. GRAY—*How Plants Grow*; and *How Plants Behave*.

OBJECTS.—In the Sixth Grade the lessons on objects should include their descriptions as to *form*, *color*, and most obvious *qualities*. In this connection, it is desirable that the pupils be led to consider what qualities are necessary in the substances used for various tools, utensils, articles of dress, etc. For instance, what quality is necessary for wagon and other springs? What qualities make sponge useful? What qualities render salt and sugar valuable? What qualities give value to India-rubber? What qualities give value to glass? What to steel? to iron? Why will not lead make good springs, or knives?

The lessons under this topic should cause the pupils to consider wherein animals, vegetables, and minerals differ from each other. Pupils will understand this subject more thoroughly by presenting the instruction in *three steps*.

*First Step.*—Request the pupils to observe slate-pencils, pieces of stone, iron, lead, chalk, and various pieces of wood, small plants, etc., and then to tell what can be done with the wood and plants, that cannot be done with stone, iron, etc. Also lead them to consider whether both of these classes of substances are obtained from the same source, and whether the iron and stone grow as the wood and small plants do. When the most obvious differences between these two classes of substances have been perceived by the pupils, give the term *Mineral* as the name for one class, and *Vegetable* as the name for the other.

*Second Step.*—The teacher may next call attention to the three great classes of substances—mineral, vegetable, and animal—and lead the pupils to observe and to tell what animals and vegetables can do (as take food, breathe, grow, die) which minerals cannot do.

*Third Step.*—Let the pupils be led to notice what animals generally can do which vegetables generally cannot do (as move from place to place by their own power); also to observe the differences between the food of plants and that of animals; as that plants feed on minerals, or simple substances from the earth and air, while animals feed on vegetables and other animals.

The pupils might also be taught that substances which once formed a part of an animal, as wool, hair, bone, skin, are called

*animal substances*; that wood, bark, gum, sugar, that once formed a part of a vegetable, are called *vegetable substances*.

OCCUPATIONS.—The exercises on this topic should not only lead the pupils to observe and describe common productions, and manufactured articles, but should also lead them to consider the necessity for buying and selling productions and articles of manufacture; also how these are taken from those who raise or make them to those who want to use them.

#### GEOGRAPHY.

*First Step*.—Review the *Points of Compass*, in training the pupils, until they are able to name any direction, as the teacher points, and to point in any direction named.

In connection with and following the instruction relative to the points of compass, lead the pupils to learn the location, and the direction from the school of other streets near the school; also of prominent buildings, as churches, post-office, hotel, railroad depot, etc.; or of villages, lakes, farms, groves, forest, streams, etc., within the range of the children's observation. The teacher should represent on the blackboard the situation of the school-house, and the location and direction from it of the places mentioned, and allow the pupils to copy the same on their slates.

*Second Step*.—While teaching the definitions relative to the *forms* of land and water, present first the picture, or a drawing upon the blackboard, of the object under consideration, as of an island, peninsula, cape, strait, lake, bay, river, etc.; then show how the same or a similar object is represented on a map. Follow this with a definition to be learned by the pupils. As the characteristics of each form of land or water—as that *an island is land entirely surrounded by water*—are learned, require the pupils to point out on a map several representations of islands, omitting the names of the particular islands in this stage. Proceed in a similar way to teach all the definitions.

COLTON'S *Geographical Cards* will be found of great assistance as pictorial and map representations to illustrate these definitions.

During this step the instruction has for its chief object training children to recognize the various forms of land and water,

by means of their characteristic features, and to describe each by suitable definitions; hence the attention of pupils need not be directed to the names and location of particular islands, isthmuses, straits, bays, etc., at this time.

*Third Step.*—Commence the instruction relative to the names, and location of particular places with the town, village, or city in which the school is situated, and extend it to other places in its vicinity. No fixed limit to the extent of this exercise can be given, since the length to which it can be profitably carried will depend, in some degree, upon the personal knowledge of the members of the class relative to these places. The teacher should aim, however, so to use the knowledge of those pupils whose personal visitations have made them acquainted with the locations of the greatest number of places, as to extend the knowledge of the other pupils.

Such attention should be given to the location upon a map of the town, village, or city in which the school is situated, and to the relative location and direction from it of the chief places in its vicinity, that the pupils will be able to point them out on an outline map. The names of the town, village, or city, of the county, and of the State in which the pupils live, should be taught, and their location shown on a map.

*Fourth Step.*—In teaching the *shape of the earth* by means of a globe, lead the pupils to compare a marble with an orange, and both the marble and orange with a globe, and thus to notice that each one resembles the other in *shape* only; also that each differs from the other in *size*. By this means prepare them for understanding that the globe represents the earth only in *shape*. Follow this with some simple illustrations as to the comparative size of the earth.

Next lead the pupils to compare the outline forms of the grand divisions of land, water, and of islands, etc., represented on the globe, with their corresponding representations upon hemisphere maps.

*Fifth Step.*—Talk with the pupils about people of different races and nations, and point out on the globe, also on outline maps, the locations of the countries where each may be found: as Africa, the home of the colored men; China, the home of Chinamen; Germany, the home of the Germans, etc. Proceed

in a similar manner with the most familiar animals, and the most common productions of different countries. Give the name of the country, and show its location on a globe, also on an outline map. Point out Greenland as the home of the white bear; Africa as the home of the lion, zebra, ostrich, and camel; Australia as the home of the kangaroo; Spain as the country where cork and raisins are produced; South America as the country from which brazil-nuts and cocoa-nuts are obtained; West Indies as the place from whence we obtain oranges and bananas, etc.

By means similar to that herein described the pupils may be made to realize that *Geography* teaches them about the homes of the different people, animals, and productions which they have seen, and of which they have heard.

The aim of the teacher should be to give the pupils a good general idea of the *shape of the earth*, of the different portions of it as the *homes of races of men*, also as the places where particular fruits grow; and of some parts as having continuous cold weather, and others continuous warm weather. This object must be accomplished chiefly by oral instruction. However, the work may be facilitated by placing in the hands of the pupils suitable text-books on Geography, to be examined by the children *after* the lesson has been given orally by the teacher; but *in no case should the pupils in this grade be required to study a lesson in the book before the subject of it has been presented orally by the teacher*, as above indicated.

Each lesson may be gone over a second time by the teacher, after the pupils have studied the subject in their books. The order of the lessons, the topics presented, and the general character of the facts taught should conform to the directions given here, without regard to the order of presentation in the text-books in common use.

After completing the course of objective instruction in Geography, as indicated in the preceding steps, the pupils will be prepared to commence the study of this subject in an intelligent manner from good text-books.

#### DRAWING AND WRITING.

The exercises in Drawing and Writing for the Sixth Grade may be continued in a manner similar to those of the Seventh.

Grade. Pupils should not be simply *allowed* to write, they should be *taught* and *trained* *how* to write by the teacher. Children need something besides copy-books to become good writers.

#### GENERAL SUGGESTIONS.

**REVIEWS.**—Such a review of the previous lesson, as an introduction to, and in connection with, each new lesson of the same subject, should be had as will cause the pupils properly to associate together the important facts previously learned with those of the new lesson.

General reviews of subjects should be had at least once during each month. On these occasions the leading facts learned in previous grades, upon that subject, should be included. These remarks are intended especially for the *first five grades* of this course of instruction.

**PROGRESS OF CLASSES.**—Whenever it is found that a class has advanced further in one or two subjects of its grade than it has in others, the teacher should devote less time to the subject in which the class has thus advanced, and give more time to the subjects in which the class has made the least progress. By this means the grade of the class may be equalized in all its studies.

No study of a succeeding grade should be introduced into a class of a lower grade before that class has completed the requirements of the grade in all its studies.

**TIME GIVEN TO EACH SUBJECT.**—The pupils belonging to the first five grades of this course should not spend more than forty minutes, at one time, upon the same subject. And in the first two grades they should not spend more than twenty minutes upon the same subject at one time.

The mind, as well as the body, needs rest. Both a change of subject, and a change in the manner of conducting class exercises, are necessary to furnish the opportunities for needed rest during school hours, besides the usual recesses of school.

**VOCAL MUSIC.**—Instruction in vocal music ought to be given to the pupils of all the grades in every school.

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PRESIDENT ELIOT, of Harvard College, recommends an enlargement of the present college library at an expense of \$80,000.

*A TALK ABOUT COAL.*

## I.

THE United States contain three coal-fields of great extent; of these, the chief, or Appalachian field, begins in Lycoming County, Penn., and stretches west and north-west across the eastern third of Ohio. Southwardly it sweeps along the western slope of the Appalachians through Pennsylvania, Ohio, West Virginia, Kentucky, and Tennessee to Alabama, and embraces an area of not less than sixty thousand square miles. In it we find the anthracite of eastern Pennsylvania and the great bituminous coals west from the Alleghanies. The Illinois field includes large portions of Indiana, Illinois, Kentucky, Missouri, and Iowa, and in extent is little inferior to the last. The Michigan field is found in the south of that State, and has an area of not far from twelve thousand square miles. Adding to these several other basins of much smaller size, we estimate the total area underlaid by true coal to be not far from one hundred and fifty thousand square miles. Comparing this with other regions, it is seen that we have nearly ten times as much as the whole of Europe combined, and about nine times as much as British America. Originally the superficial area was much greater. The Appalachian field embraces all the detached anthracite and semi-bituminous basins of the mountain ranges in Pennsylvania, Maryland, and West Virginia, as well as the great trough on the west slope. All of these are now regarded as having been originally one unbroken tract, nearly nine hundred miles long and from one hundred to two hundred miles wide.

Aside from all this there are immense areas in our Territories underlaid by great beds of comparatively recent coal, called lignite. To these no reference will be made in this paper, as any discussion of them involves the consideration of difficult questions, respecting which our best geologists are still disputing, without any immediate prospect of coming to satisfactory conclusions.

While there is no difficulty in arriving at an approximate calculation of the coal area, there is much to complicate any

calculation of the actual amount of available coal. One soon finds that the Illinois and Appalachian fields are of very unequal importance, though the areas are nearly the same. Of the several fields, the Appalachian is by far the most important, while the Michigan field is quite shallow and of no great economic value. The quantity of coal mined each year cannot be less than thirty millions of tons, and of this more than one-third is anthracite. Even at this enormous rate of consumption the State of Pennsylvania alone can supply us with bituminous coal for several thousands of years, so that we need not shiver with apprehension as we see the fire burning briskly on a cold night. The anthracite region of Pennsylvania has an area of less than five hundred square miles. Not very many years will pass before the supply of this coal will be exhausted, and our eastern cities will be reduced to the necessity of burning the bituminous varieties. When that time comes the "London fog" will be no stranger in February to the great cities along our coast.

The coals of which we speak belong altogether to one great era in the history of our globe, known to geologists as the carboniferous age, and for the most part they were formed during the latter portion of this time. The rocks belonging to this portion are of great thickness in the Appalachian basin, occasionally as much as four thousand feet. They consist of limestones, sandstones, and soft clayey slate-like rocks called shale, while scattered here and there is the coal. The whole mass is disposed in layers, or, as the geologists say, in stratas, so that we have strata of coal, or of limestone, or of any of the others. The proportion of coal is very small, for though the whole mass has a vertical thickness of between three and four thousand feet, the total thickness of the interstratified layers of coal is certainly much less than one hundred and fifty feet. Before we can learn the history of the coal itself we must know something about these rocks between the beds. Classing them according to their origin, we say that some of them, such as the sandstones and shales, are mechanical or detrital, while the rest, the limestones and coal-beds, are organic.

Along the eastern border of the Appalachian field we find only coarse detrital rocks, sandstones containing pebbles as large as a hen's eggs. There is no limestone, and even the loose

clayey shales are absent. These coarse sandstones look much like the rock which underruns the coal series throughout the country. Followed westward, these rocks become finer, and give place to fine shales, and these in turn give place to limestone. This condition continues until we reach the Ohio river, beyond which, westward, the limestones disappear and give place to shales and sandstone as we approach central Ohio. This is good evidence, showing that the shore lines of this ancient arm of the sea were, at the east, in Pennsylvania, and at the west in central Ohio. The rapidity with which the limestone increases westward is well shown in the upper portion of the coal series. In the Cumberland basin there are only two feet of limestone; in Ligonier, seven feet; near Brownsville, on the Monongahela, forty-one feet; while at Bellair, on the Ohio, it is not less than one hundred and twenty feet.

Among the most remarkable features of coal beds is their great extent. Nearly all of them can be traced over extensive areas, but their thickness is variable, and not a few of them are liable to disappear locally. Some of them, however, display persistence equally in thickness and area. The great coal mine at Pittsburg has been traced uninterruptedly through Pennsylvania, West Virginia, and Ohio, and underlies an area of not less than fourteen thousand square miles. This is by no means the original extent of this extraordinary bed. Eastwardly from this area lie several insulated basins, at one time united with it, and it seems highly probable that this bed is represented in the anthracite area. If this latter identification be accurate, the original extent of the Pittsburg coal must have been not less than ninety thousand square miles. The regular and gradual diminution in thickness of this bed is not less remarkable than its area. Along the Monongahela river, and in the insulated basins at the east, it varies from ten to fourteen feet. On the Ohio, near Wheeling, it is barely eight feet, while at its western limit it is little more than one foot. In like manner it thins out southwardly, becoming only two feet at its most south-western exposure. This thinning-out westwardly and south-westwardly is an important fact which cannot be too carefully considered in connection with theories respecting the origin of coal.

A coal-seam, examined edgewise, is found to be of compound structure, made up of numerous thin layers of brilliant coal, alternating with thinner layers or laminæ of somewhat impure or imperfect coal, containing some earthy matter. The latter are often thinner than paper, and usually consist of mineral charcoal, still retaining the vegetable fibre, and not infrequently showing traces of leaves and bark. Following out any of these laminæ one is astonished by its extent, as well as by the fact that instead of disappearing abruptly, it gradually tapers off. Aside from this minute structure, every coal-bed shows another compound arrangement equally worthy of notice. Thus, in the Pittsburg coal we find at the bottom one foot of rather poor coal; resting on this, and separated from it by a thin slate, is a layer four to nine feet thick, of very superior coal. Above this is a layer of potters' clay, upon which rests another layer of coal. This general structure prevails everywhere in this bed, except where it is greatly degraded in thickness. It is evident, then, that the same general conditions must have prevailed throughout during the formation of this coal-seam.

Viewed under the microscope, coal itself gives an interesting insight into its history. A thin section, or slice, if macerated in a solution of ordinary saleratus, and afterwards washed and submitted to the action of nitric acid (aquafortis), is freed from mineral impurities, and acquires a brownish tint, becoming at the same time almost transparent. The microscope shows this to be made up entirely of vegetable cells. Usually these are separate, and show no signs of structure, but occasionally fragments of old logs have been found, showing the cell arrangement peculiar to cone-bearing trees. In some cases it appears that the change from wood into coal was not complete, for Schultz obtained proof of the presence of woody fibre by applying the iodine test.

The floor of every coal-seam is a peculiar sandy clay, ordinarily known as fire-clay, which commonly contains many fragments of roots. In thickness it varies from one inch to several feet. Sometimes it occurs without any overlying coal, but in such a case, patient search will usually be rewarded with discovery of the missing coal at no great distance. In no case, however, does coal occur without the fire-clay.

The roof of the coal-bed may be limestone or sandstone, but is generally a clay shale. This gives evidence of some slight disturbance at the time of its deposition, being filled with leaves and twigs, together with fragments of bark, scattered in a disorderly manner, but for the most part parallel to the plane of bedding. Respecting the appearance of this roof when the coal has been removed, Messrs. Lindley & Hutton speak as follows :

"It is the beds of shale or argillaceous schist which afford the most abundant supply of these curious relics of a former world, the finer particles of which they are composed having sealed up and retained in wonderful perfection and beauty the most delicate forms of the vegetable organic structure. Where shale forms the roof of workable seams of coal, as it generally does, we have the most abundant display of fossils. The principal deposit is not in immediate contact with the coal, but from twelve to twenty inches above it ; and such is the immense profusion in this situation, that they are not unfrequently the cause of serious accidents, by breaking the adhesion of the shale-bed and causing it to break and fall, when by the operation of the miner, the coal, which supported it, is removed. After an extensive fall of this kind has taken place, it is a curious sight to see the mine covered with those vegetable forms, some of them of great delicacy and beauty, and the observer cannot fail to be struck with the extraordinary confusion, and the numerous marks of strong mechanical action exhibited by their broken and disjointed remains."

When the roof is sandstone, we find fine traces of the more delicate portions, but fragments of trunks lie tossed in every direction, and show by their position the conditions under which the sandstone was deposited. The occurrence of a limestone roof is not uncommon in America, but it is rarely in immediate connection with the coal. In a few instances a limestone is found immediately underlying the fire-clay.

That coal is of vegetable origin, all good geologists are agreed, and for twenty years have been agreed, but some diversity still exists respecting the mode in which it was arranged as we now find it, interstratified with rocks of entirely different nature and origin.

During the earlier days of geology, the estuary theory pre-

ailed, and even now, in one form, it is in high repute among those who deny the accuracy of geological investigations and seek to explain all puzzling phenomena by reference to the Noachic deluge. This theory presupposes an estuary, the mouth of a great river, emptying into tide-water. Here the deposits would be alternately fresh-water and marine; a heavy mass of mud and other material being brought down during freshets, while during the remainder of the year the tides would prevail. In flood-time, timber and other vegetable material would be floated to the estuary, where, becoming imbedded in the muddy deposit, it would be converted into coal. That coal can be formed in this way, and that it has been so formed, there is no room for doubt. The Atchafalaya raft of the Mississippi shows the immense amount of timber which can be transported. But this power is totally inadequate to produce the conditions observed. At the mouth of Mackenzie's river the banks are said to show their streaks of coaly matter, referable to drift-wood, but these are not coal-beds such as those which we have been considering. The orderly arrangement is wanting, there is no under-clay with roots, there is no roof with innumerable impressions of leaves, and the coal is not laminated.

The strong argument in favor of this theory was that it accounted fully for the alternation of strata. But here it fails as signally as elsewhere. The sea prevails only in the intervals between freshets. This time would be insufficient for the formation of one inch of limestone, how much less sufficient for the formation of one hundred and twenty feet? The hypothesis would be hardly worthy of notice were it not that it is urged strongly in support of the so-called drift-theory, which supposes that during the Noachic deluge all the vegetable matter was tossed into one spot, and there converted into coal. The fact that it could be so easily adapted to this drift-theory was no mean argument in its favor at a time when geology was thought to be synonymous with infidelity, and a knowledge of natural history was regarded as presumptive evidence that its possessor was an atheist.

*MARK HOPKINS, D.D.*

EVERY Williams College student who studied under him, holds Mark Hopkins in pleasant remembrance. We venture to say that during the thirty-six years [1836-72] of his presidency he never made an enemy. The graduating classes carried with them into their various avenues of labor, feelings of love and affection for the head of the institution. President Hopkins possessed a genial, sympathetic nature, which attracted rather than repelled the youth committed to his charge. The rigid manner of his brother Albert, Professor of Mathematics, which kept young men from warming toward him, and imparted austerity to the recitation-room, was wholly foreign to the President. One coming into his presence almost instinctively felt that he had found a friend. It was this important element in his character, his ability to secure their confidence and affection, that enabled him through so many years to exercise a power in moulding the mind of youth, such as very few men have possessed.

Williams graduates are located all over the country, and, wherever you find them, you will discover some evidences, however faint they may be, of the salutary influences which President Hopkins exerted upon his pupils. Combined with his happy manner and warm heart, he possessed to an unusual degree the ability to impart information, and to bring out whatever there might be in his students. His lecture talks were hours of unalloyed pleasure, when the seniors entered with real enthusiasm upon the discussion of the various subjects under consideration. For nearly a week we wrangled over the Doctrine of Election; and after every member of the class had had his say, President Hopkins wound up the talk somewhat in this wise: "Well, young gentlemen, however much you may differ in your opinions as to election, you can harmonize upon this common ground, to wit: that inasmuch as all time is the same with God, yesterday, to-day, and forever, then he elects and saves or elects and damns at one and the same moment. This theory meets the great objection to election, viz.: that God being a just God could not elect *in advance* this one to be saved and that one to be damned." It satisfied the minds of several

of the class who were becoming very much unsettled over the subject.

At another time President Hopkins said to his students, that while it was possible for them all to attain to what they might aspire in life, they should bear in mind that pre-eminence in any one set of faculties could only be achieved at the expense of others.

A young man could not bend all his energies to money-making without dwarfing the better traits of his character. He could not labor night and day merely to acquire a professional reputation, without neglecting and dwarfing faculties which, for their owner's real welfare, should be brought into active play. Over-culture of any one part implied the under-culture or neglect of the other parts. For this reason fame or marked prominence generally brought with it more than sufficient unhappiness to outbalance the happiness of success. The best man, the happiest man, and the really successful man, was the one who aimed to secure, and did secure, an even development of all faculties. Evenly rounded out in character and life, he approximated to the perfection which God intended for his creatures.

This was a decidedly new view for those of us who had been taught from childhood that we should decide upon some plan or pursuit in life, and then make everything else bend to it; that we should constantly nurse our one idea, constantly keep uppermost in mind the main purpose or object in view.

The experience of years, however, has proved to us the truth of President Hopkins' declarations: One-sided development, though successful in a worldly point of view, never attains to the highest success or brings real enjoyment and happiness. Converse with any of the so-called self-made men of the day, and they will generally tell you that their lives are filled with regrets that they have neglected everything else for the work in hand. If they are honest, they will confess to you that their capacity for enjoyment and happiness is sadly limited, because they feel, and are, so deficient in very many respects.

These memories of President Hopkins are recalled, by seeing a very attractive volume of his writings—just issued, and entitled "STRENGTH AND BEAUTY." It comprises nineteen essays or discussions for young men, written and delivered at

various times. Their subject-matter can be inferred from the following, among the titles: "Receiving and Giving;" "Nothing to be Lost;" "Liberality in Religious Belief;" "Faith, Philosophy, and Reason;" "Self-Denial;" "Higher and Lower Good." We recommend our readers to peruse this volume.

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### *CONCERNING OUR AGRICULTURAL COLLEGES.*

BY the Act of 1862, as it is familiarly known, Congress appropriated to the several States thirty thousand acres of the public lands for each Senator and Representative in Congress. The amount accruing from the sale of such lands was to be invested as a perpetual fund for the maintenance of at least one college in each State.

These institutions were, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States might respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life. This grant has been extended by supplementary Acts, so as to apply to States that were in rebellion when the original Act was passed; and on this basis have been established the institutions which have come to be generally known as agricultural colleges. The whole amount of land liable to issue under the Act of 1862, and the Acts supplementary to it, is nine million six hundred thousand acres.

Some time ago a Congressional Committee was detailed to investigate the condition and management of these colleges. They have recently submitted their report. They state that the first thing to arrest their attention was the great diversity in the sums received, from  $41\frac{1}{2}$  cents per acre, the exceptionally low price for which Rhode Island sold her scrip, to \$6.25, the amount received for a portion of her lands by Minnesota.

The following States received notably large prices for their

lands: Minnesota, \$5.62 per acre; California, \$5.00; Michigan, \$3.25; Iowa, \$2.27; Missouri, \$1.84; Wisconsin, \$1.25. As regards the States which received only land scrip, the price for which this was sold ranged from forty-one and one-half cents per acre in the case of Rhode Island, to ninety-five cents per acre in the case of Virginia. Between these extremes two States sold for 50 cents, seven for prices between 50 cents and 60 cents, one for 60 cents, three for prices between 60 cents and 70 cents, two for prices between 70 cents and 80 cents, three for prices between 80 cents and 90 cents, four for 90 cents, and two for prices between 90 cents and \$1.00. The States which received the largest sums for their scrip were, in order, Virginia, Tennessee, Alabama, Georgia, Mississippi, Arkansas, Texas, and Louisiana. The Southern States did not receive their scrip until some time after the close of the war. The delay brought forward their negotiations for sale at a time when prices had advanced, with the single exception of Delaware. Alabama, Arkansas, Louisiana, Mississippi, and Tennessee have endangered the safety of their fund by injudicious investment, while the management of the trust in North and South Carolina is censured by the Committee.

The colleges are generally free from debt, and promise well. The Committee say: "In a few States no provision has yet been made for the establishment of such institutions. In several other States, although the necessary legislation has been enacted, no progress has been made with organization. In a larger number the organization has but recently been effected, and only six institutions are reported as having been commenced prior to 1865. The number of students in attendance upon these schools is already between three and four thousand, and they have furnished more than sixteen hundred graduates to the active occupations of life. More than two hundred teachers are engaged in the work of instruction.

To the question whether persons of color are admitted, twenty-nine colleges have forwarded replies. Of these, fifteen report that such students would be admitted; nine, that none have applied; two, that they would not be admitted, because provision has been made for them elsewhere; two, that no rule prevents their admission; and one, that the terms of admission have not yet been settled.

*NEW EXAMPLES IN ARITHMETIC.*

**A**SERIOUS objection to many good Arithmetics is the fact that the answers to their examples are published in Keys. These the pupils obtain, and very often copy from them without at all understanding the processes by which the results are obtained. The teacher, owing to a multiplicity of duties, has not the time to carefully examine the pupil to see if he comprehends what he has written. If the pupil's answer agrees with the answer in the Key, it must be taken as proof that the work has been correctly done. This is especially the case in examinations. To remedy this, we have prepared some test examples. They have never before appeared in print, and there is therefore no possibility that students can procure answers from a Key. If correct results are obtained,—and this the teacher can readily determine,—it will be a proof that the student has done the work himself:

Harold's uncle gave him two dollars to spend as he pleased. How long was it before he had a ticket to the circus, and how much of the money did the heathen get? This is to be worked in decimal fractions to twelve places.

A man on receiving his week's wages bought one pound of beef at thirteen cents, one box of segars at six dollars, three bottles of rum at one dollar, and had no money left. What happened when he got home?

A boy who had been stealing apples was chased by a farmer who, at the start, was two hundred feet from the tree. He went at the rate of six miles an hour and the boy at the rate of four miles an hour. How soon did the farmer catch the boy, and how long after that was it before the boy could sit down with comfort?

From 1,000 00½ take the cube root of 4 times 60 multiplied by the square root of 1 divided by  $\frac{1}{2}$  of  $\frac{1}{2}$  of 82½.

A lady, on being asked if she were old enough to marry, answered, that  $\frac{1}{2}$  of her age, multiplied by  $\frac{1}{2}$  of her height, would equal the square root of the combined ages of her grandfather and uncle, divided by 1 and multiplied by 1. Was she old enough? This is to be worked according to the rule for equations containing no known quantities.

A thief robbed a district school-teacher of half his annual salary. Did he get enough to pay for his trouble? (Answer given. No.)

If a lot containing six acres of ground can be fenced with five hundred rails, and a lot containing twelve acres can be fenced with nine hundred rails, how large must a lot be to need only one rail to fence it?

Two young men invested equal sums of money in business, and agreed that, at the end of one year, the profits should be divided pro rata according to the hours which each labored. At the end of five months and two days, they find that they have lost all their money. One has been at the office one hour each day—except when it stormed—and the other has been at the office a quarter of an hour every third day. How much does each one get as his share?

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#### ERRORS IN EDUCATION.

IT is far easier to tear down than to build up, to point out errors than to carry out reforms. A writer in the *Penn Monthly*, however, criticises the current common-school methods of study in such an original and forcible manner that what he utters will, to say the least, command attention. He begins by observing that our system of public education is yet in the formative stage. While we had schools and colleges from the very first of our colonial existence, the rise of public schools and of the popular demand for them occurred within the memory of the oldest member of the present generation. The idea came into the Middle States from New England, and met with no small opposition, as a dangerous "Yankee notion." Then taking up the various methods and aids for teaching now employed, he proceeds to criticise them in turn. By far the greatest part of what is taught under the head of geography in our schools is, he declares, the merest phantasm of knowledge. The time spent in memorizing the contents of books and maps in every section and class of our public schools is for the most part sheer waste. They contain no discipline of the mind. They only burden the memory; and after spending years in learning every speck on a large

school atlas, the scholar generally spends a few more in getting utterly rid of it. Pure arithmetic, as actually pursued, is carried but a short way, and then the student is required to apply his knowledge to supposed cases in commercial arithmetic. "Years that might have been well employed in the practice of the mental analysis of numbers, in the study of roots, powers, series and logarithms, are really spent in memorizing and applying commercial rules with which, as business men tell us, our counting-houses dispense utterly. Elaborate roundabout ways of computing questions, which the business man solves by reference to a printed table, are taught *ad nauseam*, while the mental alertness in dealing with numbers generally, which would be of the first value in practical life, is but very slightly cultivated, and only upon the simpler problems. In fact, the only hard and valuable piece of work in pure arithmetic that the student has to encounter is the multiplication-table, which very absurdly stops at 'twelve times twelve,' but might, as the years went on, be very usefully carried on much farther—say four or five times as far." The synthetical branches of mathematics are, the writer asserts, very unnecessarily postponed to an advanced period. For example, geometry is the best introduction to algebra, but is always taught after algebra, thus reversing both the historical and the mental order of these studies.

The writer furthermore denounces our present common-school apparatus for linguistic training, as curiously and ingeniously constructed to make the study as lifeless and mechanical as may be. He says:

"That old torture, the school dictionary, is indeed gone. The present generation is privileged to learn something of their own language without weeping over the pages of 'Entick.' But the spelling-book, the definer, and the etymology have taken its place, each a dreary *hortus siccus* of sapless and murdered words—each a funnel to pour immense verbal information into the youthful mind without in the least awakening that mind to mental life and activity. Each is a mere collection of facts reached by linguistic students, but does not teach the students any method of linguistic study and observation for themselves. The success of the student who has mastered such a book can only puff him up with false knowledge. He has learnt, not words in their living force and their actual use,

but only definitions—those *vraisemblances* of things which, in spite of all Bacon's labors, men will persist in substituting for things.

"Alongside these books generally stands an English grammar, modeled after some of the worst specimens of Latin grammars. A graduate of the university that numbers Lindley Murray among her alumni, ought perhaps to deal tenderly with this class of books. Their chief fault is their attempt to treat a living language by the severely analytic method that is only possible with a dead one. They are guilty of linguistic vivisection. The student of their wearisome pages will go on talking bad grammar all his life, if he have no better or more practical instruction than they give—if he be not instructed by the example of persons who speak English correctly, or by the study of English literature.

"The one redeeming book of the series is the reading-book, out of which the student really learns all that he really knows of the words and the grammar of the language. Its usefulness goes so far as to cover up the failure of the other books associated with it. But it falls far short of what is needed. Its brief and unsatisfactory extracts serve almost none of the purposes that a text-book for literary study should serve. They are not long enough to give a satisfactory view of the literary capacity and method, of the mental life and vigor of any one writer. They are not stepping-stones to that friendship of books, which should be a chief end in the study of books. Their fragmentary character prevents the student from comprehending the nature and unity of a work of art, and entering into its highest beauty; they are—some one says—like noses, chins, and ears struck from great statues, and presented in that form to those who are to be impressed with the beauty of sculpture. And, lastly, as they spread over four or five centuries, and give a comparatively small space to each period, they offer no means for the study of the language in any one stage. Most of them, indeed, give the smallest space to the ante-Restoration period—that which is our especial and equal possession in the literature of England."

We have made copious extracts from the writer, because his ideas and criticisms, while they may not carry conviction, are both fresh and novel, and as such deserve notice.

**THE BATTLE OF THE BOOKS IN CALIFORNIA.**

*San Francisco, February 1st, 1875.*

PROBABLY few of your readers have an idea of the rivalry and competition existing among school-book publishers, and of the varied resources and appliances which they bring into play to accomplish their aims and purposes. The entire country, from the Atlantic to the Pacific, constitutes one vast battle-ground upon which they contend and wrestle, with ever-varying results; and what is worse than in a real conflict of arms, the struggle is never ended. Every inch of vantage ground has to be hotly contested for, and then when gained, no amount of intrenching will insure its retention. The victor to-day becomes the vanquished to-morrow. All the fruits of one day's hard fighting are lost by a flank movement or a night surprise. Instead of having one foe to watch and contend with, a score of opposing forces are constantly bearing down front and rear, ready to join hands for the time being, and make common cause against the common enemy: to wit, the victor in the last struggle.

California has just been the arena of one of the hottest of engagements between these publishers. The agents or generals of the respective houses suddenly swooped down upon us like a thief in the night: they came from New York, they came from Boston, and they came from Chicago and other points, snuffing the battle from afar, and all eager for the fray. The State Board was to select school-books for a period of five years, and each one of the contestants arrived in fighting trim. There was the festive Soper, small of stature, but quick and wiry in his movements, and a firm believer in the old proverb that more flies are to be caught with molasses than with vinegar. Wm. M. has established quite a reputation out here as a story-teller. If you ever fall in his company, get him to tell you how he subjugated South Carolina and took captive her dusky legislators. Soper had had the advantage of real military service, and he unfurled the banner of the Appletons with a flourish and bravado which must have struck terror

among some of his antagonists. T. W. Conway represented Harper & Brothers. He had been a military general and a preacher, and if I remember rightly, was at one time Superintendent of education in a reconstructed State. These diversified experiences had given him a rough and ready manner; and he was always glad to take a hand in anything that came up during the intervals in the battle of the books, whether it was a culinary set-to or an investigation of the Chinese question. He believes in exterminating the children of the flowery kingdom.

A. S. Barnes & Co., New York, were represented by A. P. Flint, the veteran agent, who, like the Rocky Mountain "Path-finder," parts his golden hair in the middle and ever keeps an eye to windward. He fought long and fought hard, giving himself no respite except to attend Church or to investigate the Chinese question. He believes these "heathen" should not be permitted to send home the bodies of dead friends for burial.

C. L. King carried the standards of Ivison, Blakeman, Taylor & Co., New York. He was nervous, frisky and active, and resorted to various stratagems for furthering his cause, among others, Gen. Scott's old campaign-dodge of kissing the babies. That may do very well in a political contest, but something more than winning the women is required to win a book fight. W. M. Scribner, familiarly known as "Old Scrib," was on hand for Potter, Ainsworth & Co., New York. He wore his accustomed solemn expression. His long flowing locks streamed in the wind like Samson's before Delilah had got to work, and he looked, if possible, more dignified and venerable than ever. I cannot vouch for it, but report says he has frequently been taken for an Eastern missionary or colporteur since arriving on the Western coast. What Scribner doesn't know about penmanship isn't worth knowing, but we grieve to say that his copy-books went by the board. Isaac Upham mingled in the fray for Wilson, Hinkle & Co., of Cincinnati and New York. He dealt good blows, never lost his temper, and invariably came up smiling. He made a good many friends and few enemies while here.

D. A. Learned, local, represented Ginn & Co., of Boston. His forte was his big discounts and familiarity with the school

law. He invariably signed himself the Granger Agent, *pro tem.* D. Libby, who represented A. L. Bancroft & Co., of San Francisco, was one of your rapid men; you saw him, and tried to put your finger on him, but like the Irishman's flea, he was gone. He was backed by a large lobby and assisted by everybody of influence hereabouts. Very different from him was a Rev. Mr. Whittemore, who did battle for the University Publishing Company of New York. He was a quiet, gentlemanly man in his bearing, and clearly showed by his general manner that he thought he was dealing with honest men. May he never have reason to think otherwise, as he gains experience in the business.

We have thus briefly described the main actors in the exciting contest which has been fought here by the publishers. Early last Summer the book men began to agitate their various claims. This agitation, mild at first, increased as the days wore on. The last four weeks of the contest grew very warm, and day after day the respective belligerents were seemingly "nip and tuck," none knowing how the others stood. All the papers of California, particularly those of Sacramento and San Francisco, participated in the contest, doing good service for their respective favorites. Repeated efforts were made to enlist Gov. Booth, Ex-officio President of the Board of Education, but he declined to be interviewed or to commit himself in advance. The Board met on Jan. 5th, when the final discussion and presentation of claims began, and ended on the 7th, when the result was announced.

The University Publishing Company made bids for the whole list, but received no votes.

The Ginn Brothers, of Boston, desired to have their Geographies introduced into the schools, but received no votes.

Harper & Brothers wanted Swinton's Grammar and United States Readers put on the list. Though they failed in this, they succeeded in having a copy of the grammar placed in each school-house, and in each school-teacher's hands, in the State, which, considering the author's Eastern antecedents, and the reputation he left in this State, was doing remarkably well. The Appletons supplanted Monteith's Geographies, published by A. S. Barnes & Co., with Cornell's Geographies.

The fight on this part of the line was unusually severe, but the Appletons finally triumphed.

Ivison, Blakeman, Taylor & Co., supplanted Payson, Dunton & Scribner's Copy Books, published by Potter, Ainsworth & Co., with the Spencerian system. A. L. Bancroft & Co. supplanted McGuffey's Readers, published by Wilson, Hinkle & Co., with the Pacific Coast Readers. State Superintendent of Education Bolander was opposed to any change in readers, but what he said or recommended appeared to have very little weight. He will not be the next Superintendent. I wish right here to correct the impression prevailing east, that Mr. Bolander's failure to answer any letters directed to him arises from an inability to write. The fault, I find, upon inquiry, is mainly due to an assistant, who takes pride in ignoring correspondence.

The books selected are to remain in use for five years, all over the State, except in San Francisco, which is exempted from the general law of the State. The battle ended, the agents fraternized, visited the Chinese quarters, and paid their respects to the city generally. Flint, Soper, and Conway started east together by the overland route. **OBSERVER.**

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WE are in receipt of several inquiries regarding prospective foreign tours, particularly for ladies. While several have been projected, perhaps Professor Lafayette C. Loomis's Second Select European Party offers as many inducements as any. He writes us from Paris that the *Swiss Tour*, taking in London, Paris, the Rhine, and Switzerland, will cost \$375. The *Swiss-Italian*, comprising the above, with Venice, Florence, Rome, Naples, and Vesuvius, will cost \$450 gold, which sum will cover every necessary amount for the entire trip—extending from June 25th to September 6. Those desiring to go can obtain further information by addressing Professor Loomis, at Washington, D.C. There is no class of individuals who are more deserving of vacation tours than school-teachers. It is now quite the thing for churches to send their ministers abroad, to recuperate their physical energies, and to give new ideas and information. Why should not the educator, who is generally overworked and underpaid, be similarly sent abroad?

*CREAM OF THE EDUCATIONAL MONTHLIES.*

**C**OMPULSORY education is before the legislatures of Indiana, Illinois, and Wisconsin, and is recommended to Pennsylvania by Governor Hartranft. The *Michigan Teacher*, however, publishes a long and carefully-written paper by Henry A. Ford, to demonstrate that compulsory education is not wanted in that State. Says the writer :

"Let us enlarge and beautify and make thoroughly healthful and attractive our school homes ; equip them to the full with apparatus and reference-books, maps, mottoes, pictures—all things needed there ; send to them only professionally educated teachers ; pay adequately and clothe with competent powers them and all our officers of education ; improve and practicalize methods ; establish the blessed institution of the kindergarten as a half-way house from the home to the school ; supplement free tuition logically with free text-books for all (as in Maine), and free clothing for the indigent ; create a prevailing and powerful public opinion in behalf of universal education ; do personal mission-work among the indifferent and neglectful ; in brief, advance educational reform all along the line ;—and the seeming need for compulsory measures will vanish like morning mists before the sun. Not by the thunders and lightnings of the stern old dispensation is humanity to be frightened or forced to enlightenment and morality, but invited and won to it in the beautiful, tender spirit of the later covenant."

A WRITER in the *Maine Journal of Education* urges the importance of devoting more attention to "Oratory in Schools :"

"In this nation of orators, where every boy, and possibly, in the millennium, every girl, may be called upon some time in his or her life to take the stage for the purpose of addressing his or her fellow-citizens, elementary training in public speaking ought to be given in all our common schools. Interesting exercises in reading, recitation, or declamation, can be arranged to take place once a week, affording an agreeable change from the monotony of regular lessons day after day. They have an important influence, awakening an interest in reading in all its

branches, and in developing the power of reading well. No more pupils should be selected to speak or read each week than can receive careful drill by the teacher out of school hours. By means of such drill, indifferent readers or speakers are often made good ones, and unsuspected talent for oratory is frequently brought to light.

THE *Indiana School Journal* contains a long, well-written plea for higher education, and calls upon the teachers of Indiana to send contributions to aid in erecting a monument to the memory of the late State Superintendent Hon. M. B. Hopkins.

IN a paper on Qualifications of Teachers, the *Maryland School Journal* argues that the failure of teachers to have good schools is mainly due to lack of interest in their work. They don't care to teach. The work is a drudgery; it is irksome. It is a yoke that presses upon them uneasily, and chafes and frets. By some force of circumstances they have been brought into their present position, not voluntarily and lovingly, but as a matter of necessity. Through constraint they have been induced to undertake the work, and they feel it to be a yoke all the time. And it galls, and they are restive under it, and would fain throw it off if possible. Now it requires no prophet to tell how men are going to do work of that sort. If their hearts are not in sympathy with it, and they feel it to be a drudgery, they are going to touch it as lightly as possible. They are going to spare themselves as much as they can. And even though they be conscientious men, and a sense of responsibility may quicken them and bring them up strictly with the line of duty, yet a work of this kind, if there be no heart in it, no spirit, no life and animation, must to some extent prove a failure.



THE *New Bedford Manual of Instruction* sensibly says: "Teachers should be very careful not to talk too much. They should question, and so make their scholars talk, and lead them to think and reason and inquire. The talking, except when instruction is given, should be mostly on the scholar's side."

*EDUCATIONAL INTELLIGENCE.*

**C**OLORADO.—The average pay of male teachers in Colorado is sixty-two dollars per month. Female teachers receive fifty-one. The amount expended for school purposes during the past year was \$141,374 37.

**IDAHO.**—The Fourth Biennial Report of the Superintendent of Public Instruction for the years 1873 and '74, shows that while some educational progress has been made in Idaho Territory considerable more remains to be done. A new school law, designed to meet present needs, will be brought before the Legislature which convenes this year. As the lands in the Territory are not now available for school purposes, Superintendent Perrault recommends that the Legislature memorialize Congress to grant the Territory aid in money in lieu of lands, so that the population may have an immediate available fund for school purposes. He furthermore recommends that the pay of County Superintendents be fixed by the Legislature directly, and not left to the varying and uncertain action of County boards; also that the position of Territorial Superintendent be made a separate and salaried office. At present the Comptroller is compelled to perform the duties of Superintendent with no additional compensation. He very properly says: "It is not just to expect any officer to work for nothing. Idaho Territory is the only place in the United States where the Superintendent is expected to give his services for nothing." The school children have increased from 1,596 in 1871 to 4,010 in December, 1874, the date of the report. The Superintendent humorously observes: "The Territory is, doubtless, under many obligations to our Mormon friends of Oneida County for this extraordinary increase. In 1871 Oneida County reported 395 school children, and in 1874 2,056."

**IOWA.**—The total expenditure in the State for school purposes during 1874 was \$4,429,879.10, of which sum teachers were paid \$2,444,886.04. The total average attendance in the public schools was 227,151, as against 204,204 in 1873.

MAINE.—In a special message to the Legislature the Governor says, "The attendance upon Teachers' institutes has been so small for the past few years that the State is not justified in further continuing the appropriation for this purpose." He therefore suggests that in place of them the State Superintendent visit each county, hold meetings of school committees, confer with friends of education, address the people at various points on educational topics, and by every means in his power endeavor to awaken new interest in our public schools. Ex-Governor Coburn has given a third donation of five hundred dollars to the Agricultural College at Orono.

MARYLAND.—The Baltimore City Council is about to establish a high school for colored pupils. Maryland appropriated \$100,000 last year for the support of her colored schools, which are said to be in a very flourishing condition.

MASSACHUSETTS.—It is calculated that there are more than 60,000 children in Massachusetts who do not attend any school. The whole number of children in that State between the ages of five and fifteen is 292,481, and the average attendance in the public schools is 190,908.

MICHIGAN.—In reply to inquiries from State Superintendent Searing, of Wisconsin, regarding the workings of the compulsory school law, Superintendent Briggs writes: "The 'Act to Compel Children to Attend School' was approved by our Legislature, April 15th, 1871, and became operative on the first Monday of September following. I have yet to learn of a single instance of its enforcement in any locality. Hence the ready inference is that the people are not ready for it, and it stands '*a dead letter*' on the statute-books, to be vitalized or its spirit materialized, like Katie King's, in the 'good time coming.' A disposition on the part of school officers to ignore the law everywhere prevails, and this statement is most fully confirmed by the testimony of County Superintendents of Schools throughout the State. Bills have been introduced into the Legislature for the repeal of the County Superintendency Act, but no decisive action has yet been taken. A memorial from the Lenawee County patrons of husbandry in favor of a State publishing-house for the publishing of school-books, has been presented in the Senate. The

Alumni of Michigan University have raised \$25,000, where-with to endow a professorship in honor of George P. Williams, who was retired three years since on account of advanced age. The income will be paid to Prof. Williams during his lifetime and to the occupant of the chair after his death.

The attendance in the public schools of Michigan last year was 327,506. There are 5,762 school-houses in the State, the value of which houses, with sites, is \$8,912,698. The average monthly wages of male teachers are \$52.45. Female teachers receive \$27.01. The whole number of students now attending Michigan University is 1,191.

NEW YORK.—There are in New York City 304 schools, nine being exclusively for colored pupils. The number of pupils registered is 251,545, of whom only 117,239 attend school regularly. The increase in attendance over last year is 7,344. The teachers employed number 3,039, of whom 200 are males and 2,839 females.

The charter of Hamilton College has been so amended as to provide for the election of one trustee annually by the alumni of the college.

TENNESSEE.—A bill to abolish the State and County superintendencies of public schools has been presented in the Tennessee Legislature. It is proposed to make the State Treasurer the State Superintendent, and County Court Clerks County Superintendents. *The Republican Banner*, of Nashville, says that almost the same thing was unsuccessfully tried from 1870 to 1873.

VERMONT.—In Vermont last year there were 91,000 children, of whom 72,000 attended school. The total cost of schools was \$737,000. The schools continued twenty weeks. One-third of the school-houses were reported unfit for use. There is no high-school system. Edward Conant, who has been elected State Superintendent of Education, was formerly a member of the State Board of Education; and has been Principal of the State Normal School. The vote by which the State Board of Education was abolished stood 27 to 1 in the Senate, and 180 to 18 in the House.

## CURRENT PUBLICATIONS.

ON Teaching: Its Ends and Means," is the suggestive title of a book by *Henry Calderwood, LL. D.*, Professor in the University of Edinburgh. Although originally intended for Englishmen, it will be found to contain suggestions of value to American teachers. The subjects considered are: Self-Government, School-Discipline, Instruction, and Formation of Character. These, with an Introduction, which discusses the end and means of education, and a Conclusion, make up a book of about one hundred pages. The chapter on School-Discipline is especially valuable. Teachers must not, the author says, expect the impossible. Children are restless, and this must be allowed for. A tramp through the school-room to a good march played on the piano will prove more effectual in securing quiet than harsh punishments. In discipline, the eye and voice should be largely depended upon. The former is very effective, because it does not disturb the recitation which may be in progress, and because it conveys reproof or encouragement with comparative secrecy. To utter every warning to a child in the hearing of all his companions would be to blunt the edge of the warning itself. In many cases the calling of general attention to what is being done would throw the mind of the offender into an attitude of defense altogether unfavorable. The voice is also to be used in discipline, but sparingly. The pupils must always feel that there is an actual necessity for speaking, or the reproof loses much of its force. Warnings also have little weight if they are incessantly reiterated. In regard to corporal punishment, we agree with the author, that although it should be employed only in cases of extreme necessity, still the teacher should have the right to employ it. The author quotes an excellent sentiment in regard to punishment, and with that we must close this notice. "Nothing more impairs authority than a too frequent or indiscreet use of it. If thunder itself were to be continued, it would excite no more terror than the noise of a mill."

VOLUME V. of the Bric-a-Brac Series contains the "Greville Memoirs." Few works of this character have attracted a more

general attention both in Europe and in America. Mr. Greville was for nearly forty years Clerk of the Council, during the reigns of George IV. and William IV. of England. His position was such that he was brought into frequent and intimate intercourse with eminent persons, whom, not being himself a party politician, he was able to judge with a great degree of impartiality. His cast of mind, moreover, was such as to especially qualify him for work of this character. He was truthful and just, but was in some cases very severe. It must not be forgotten that his writings are contemporaneous with the events which they describe, and that history has in some cases modified his judgments. His memoirs are, however, very valuable, because they give a vivid picture of events as they appeared to an intelligent actor in them.

Of the divinity that doth hedge a king Mr. Greville has apparently no conception. He speaks of George IV. in this wise: "The fact is that he is a spoiled, selfish, odious beast, and has no idea of doing anything but what is agreeable to himself, or of there being any duties attached to the office he holds." His estimate of William IV. is expressed with equal frankness. In 1829 Mr. Greville met Washington Irving, then Secretary of the American Legation in England. He describes him as "lively and unassuming, rather vulgar, very good-humored," and later, he says he lacks refined manners. Those who knew Mr. Irving will not coincide with this criticism. The most attractive parts of the work are the graphic delineations of Brougham and the Duke of Wellington. They stand out before the reader with wonderful distinctness. Mr. Greville's style is very pleasing; we may almost call it gossipy, not using the word in a bad sense.

In the study of history we have advocated the reading of all kinds of books which refer to the subject, and would awaken an interest in it; novels, poems, etc. For such a purpose the "Greville Memoirs" are especially fitted. In advanced classes in school they would be found very useful. To suit that purpose, however, a style of binding which would not soil so easily would be advisable.

"THE Wonderful Life," by *Hesba Stretton*, is a biography of Christ. We have often wished for a connected narrative of this sort told in simple words. It makes an impression of

reality upon young minds which the phraseology of the Bible does not produce. There can necessarily be no scope for originality in such a work; the most that can be done is to judiciously arrange the facts given, and to clothe them in appropriate language. This has been done in the volume before us. It is evidently an English book, and some changes should have been made to adapt it to the American market. For instance, it is said of the Holy Land: "More than two thousand miles stretch between us and it." This gives the impression that the distance between us and the Holy Land approximates two thousand miles. Such a statement is correct for England, but not for New York.

THE only criticism we would make upon *Mr. W. H. Venable's "Dramas and Dramatic Scenes"* is that some of the plays demand dramatic powers not generally possessed by amateurs. The scene from "Romeo and Juliet" in which *Mercutio* and *Tybalt* are killed, for instance, would undoubtedly be so badly done as to become absurd. The same objection holds in regard to some other of the selections. The fault of the work is that it attempts to serve too many purposes. It is intended to supply scenes for dramatic representation, and also to be used as a reference-book for students in English literature, and as a reader. In the latter capacity we think it will do good service, since all the selections are from standard authors. We would not be understood as demanding mediocre plays for schools; we would like to have dramas easy to be acted. A good play well done is preferable to a grand one poorly done. The book is very nicely printed, and the illustrations are fair.

VOL. IX. of *Putnam's "Elementary Science Series"* has just been published. It is devoted to magnetism and electricity, and is written by *John Angell*, Senior Science Master in the Manchester, England, Grammar School. The book contains a large number of illustrations.

*McGinley's "Introduction to the Study of General Biology"* is designed, as stated, "for the use of schools and science classes." Without being more than elementary, it contains many interesting facts which awaken a desire for further knowledge in the same field. That an acquaintance with

certain branches of biology is important, not only from a scientific, but a practical point of view, is evident from the fact that some of the lower forms of vegetable or animal life are closely connected with diseases which scourge the animal and vegetable world. The silkworm disease, the cattle plague, the potato rot, the *oidium*, foe to the vine, and perhaps like latent agencies which ally themselves with such pestilences as cholera, scarlet fever, and diphtheria, are instances of what "minute instruments of mighty mischief" organisms, even microscopic, may become. The London *Times* estimated that the loss to the country from the destruction of the potato crop in 1872 would exceed twenty millions sterling, and this detriment was the work of a mould or fungus. As an instance of the importance with which even the life of an insect may sometimes be invested, the *phylloxera vastatrix* is in point. The State of Missouri exported this lilliputian to France, but that nation appreciated the gift so lightly as to offer a reward of 20,000 francs to be freed from its presence in the vineyards. So that while the "proper study of mankind is man," a search into the process by which other lives than ours are carried on, and how they are occupied, should not be overlooked, even though the microscope be necessary to the investigation.

The "Introduction" is provided with a glossary, and is well illustrated. It is calculated to excite a love of science in the young, and thus afford useful and agreeable mental employment.

THE little work on Physiology, by *Dr. M. Foster*, which is the sixth in the series of science primers edited by Professors Huxley, Roscoe, and Balfour Stewart, is recommended sufficiently by their indorsement. It is very pleasantly written, and sufficiently illustrated.

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WE regard a school or college which has celebrated its centennial as very old; but such institutions appear youthful when compared with a gymnasium now existing in Fulda, Germany. It was founded as a convent-school, by the Abbot Rabanus Maurus, in 813, and is consequently 1,062 years old. It is the most ancient secondary school in Germany.

*MISCELLANEA.*

MR. EPHRAIM PRAY, of Jersey City, has given **M** to the Jersey City High School a scholarship in Rutgers College, the benefit to accrue, in succession, to such graduates of the High School in the classical course as shall sustain the best final examination in their respective classes.

PRESIDENT ELIOT, of Harvard College, in his recent annual report to the Board of Overseers, mentions the decided improvement in the physique of the students during the last twenty years. This improvement, he says, is more conspicuous in city boys than in country boys, among the well-to-do than among the poor; and among New England boys than among those from without New England.

A LITTLE girl was braiding the hair of one who sat in front of her, instead of studying, when the teacher remarked, "Home is the place for arranging hair, not here. What would you think to see me braiding my hair in school?" Presently Susan's hand is raised, and the teacher, supposing she wishes to ask some question about the lesson, nods, when she hears the following: "Mary says your hair is false, and you wouldn't dare to do it here!"

ALL the boys and girls under the age of 15 years, formerly employed in the silk factory at New Brighton, Staten Island, have been discharged, in conformance with the provisions of the Compulsory Education law.

DR. NATHAN DURFEE, of Fall River, has given \$25,000 for the erection of a chapel for the Andover Theological Seminary. A subscription for the same object, in the town, to obtain \$25,000 more, has added \$2,000 additional, and work on the new building is to commence as soon as may be.

THE library of the late ex-President Walker is said to have been bequeathed to Harvard University. The collection is large, and it is valued at \$15,000.

THE Faculty and Alumni of the University of the City of New York, gave a banquet at Delmonico's in honor of Mr.

John C. Tomlinson, who took the first prize at the recent Inter-Collegiate Literary Contest.

THE British Government has given the sum of \$50,000, to be equally divided between Edinburgh and St. Andrew's Universities, for the institution of chairs of education—this sum being supplementary to an equal one just bestowed by Dr. Bell.

A NEW idea in feminine education is the establishment by an American lady of a school in Munich, wherein American pupils can find the advantages of foreign instruction, and American ways of living.

THE Philadelphia Board of Public Education calls upon the principal of each school to report upon the hygienic arrangements in the schools, and upon the effect of study upon the pupils.

THERE is a wise custom in force in New London, Conn. The Board of Education occasionally meets the teachers of the city to discuss matters of practical detail in the schools.

IT is reported from Albany that at an early day a bill will be brought into the Legislature to repeal the Compulsory Education act. The cause is, of course, the difficulty which many school boards have found in construing its awkwardly-drawn provisions. Judge Murray, of the Supreme Court, has given an opinion to the effect that no action can legally be taken under the 8th, which is the controlling section of the act, because it seems to require something to be done officially before the act took effect. He also expresses some doubt as to the constitutionality of the law, and has declined to approve any regulations adopted by boards of school trustees under it.

THE income of Harvard University during the past year was, according to the annual report, \$200,529.19. The expenditures amounted to \$195,842.88.

A SUNDAY-SCHOOL teacher was giving a lesson in Ruth. She wanted to bring out the kindness of Boaz in commanding the reapers to drop large handfuls of wheat. "Now, children," she said, "Boaz did another kind thing for Ruth. Can you tell me what it was?" "Married her," said one of the girls.

THE Cincinnati School of Design has a class in carving, of 105 members, 26 of whom are married ladies. During the year they have had in hand, or completed, 822 pieces of work in wood, besides sundry tasks in metal and tile painting.

ALL but one of the public night-schools in Philadelphia have been closed on account of lack of funds to carry them on. There were forty-two of them, attended by over 13,000 pupils.

WE need a few new words in English. One should be a singular pronoun of both genders. For example, in the sentence, "If a pupil cannot explain a thing, *he* cannot be said to understand it," we have to use either a masculine or feminine pronoun, thus confining the pupil referred to to one gender. Pupils are, however, of both genders. The sentence can, of course, be put into another form; but we should have a pronoun for this case.

IN New England there is an old colonial law of 1647 requiring every township of 100 families to have a high school where are taught classics. In Massachusetts there are some 180 towns that have these schools, some places, such as Boston, having several.

A BILL has been recently introduced in Congress by Senator Sargent for the establishment of an "Oriental College in connection with the University of California." It is proposed to invest the Japanese indemnity fund in United States gold-bearing five per cent. bonds, and to appropriate the interest to educational purposes. The annual income of these bonds would be \$37,500, sufficient to sustain an Oriental department in connection with a University already established, but not enough to found a separate Oriental College.

OF the 178,356 men comprising the British Regular Army, 10,724 cannot read or write. The Prussian draft of 1873-74 for the Army of the German Empire numbered 83,333 young men, of whom 3,324 had no education whatever. The recruits for the Austro-Hungarian Army numbered 91,531 young men, of whom 51,514 were not able to read and write. Thus, one British soldier in every seventeen, one Prussian soldier in every twenty-five, and one Austrian soldier in every two, is entirely ignorant of the elements of education.